

**Amendments to the Specification**

Please replace the paragraph beginning at page 10, line 22 and continuing to Page 11, line 5 with the following rewritten paragraphs:

*A* In the manufacturing method, as shown in FIG. 3A and FIG. 3B, an insulating layer 2 made of an insulating material such as alumina ( $Al_2O_3$ ) or silicon dioxide ( $SiO_2$ ) whose thickness is 1 to 20  $\mu m$ , for example, is formed through sputtering, for example, on a substrate 1 made of a ceramic material such as aluminum oxide and titanium carbide ( $Al_2O_3\cdot TiC$ ). On the insulating layer 2 a bottom shield layer 3 made of a magnetic material and having a thickness of 0.1 to 5  $\mu m$ , for example, is formed for making a read head. The bottom shield layer 3 is made of a magnetic material such as FeAlSi, FeAlSi, NiFe, CoFe, CoFeNi, FeN, FeZrN, FeTaN, CoZrNb, or CoZrTa. The bottom shield layer 3 is formed through sputtering or plating.

Please replace the paragraph beginning at page 18, line 23 and continuing to page 19, line 9 with the following rewritten paragraph:

*B* The antiferromagnetic layer 25 has a thickness of 5 to 30 nm, for example, and may be made of an antiferromagnetic material including Mn and at least one element  $M_{II}$  among the group consisting of Pt, Ru, Rh, Pd, Ni, Au, Ag, Cu, Ir, Cr and Fe. The proportion of Mn preferably falls within the range of 35 to 95 atomic % inclusive. The proportion of  $M_{II}$  preferably falls within the range of 5 to 65 atomic % inclusive. Types of antiferromagnetic material include a non-heat-induced antiferromagnetic material that exhibits antiferromagnetism without any heat treatment and that induces an exchange coupling magnetic field

between a ferromagnetic material and itself. Another type of antiferromagnetic material is a heat-induced antiferromagnetic material that exhibits antiferromagnetism when heat treatment is given. The antiferromagnetic layer 25 may be made of either of these types.

*AP*

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